PCC '77

Zapple Monitor

Zapple Basic 8K

Super Basic 12K

Relocating Macro Assembler

Text Output Processor

Zapple Text Editor

Z-Tel Z-80 Text Editing Language

Data Management Basic

Fortran IV

The Design Leader in μ Computers

TECHNICAL DESIGN LABS

TDL's Z80 SYSTEM SOFTWARE

THE ZAPPLE MONITOR

The versatile Zapple Monitor maximizes the user's system executive control. All I/O drivers for all TDL software are contained in the Monitor; once the Monitor is modified to your I/O configuration all other TDL software is immediately compatible with your system making your total system setup extremely simple.

The Monitor supports a CRT, teletype and audio cassette as well as providing exceptionally powerful hardware and software debugging capability. It's modular organization also allows other user provided I/O drivers to be 'tacked on' at the end to handle any form of I/O your system may demand. The Monitor's 27 commands occupy only 2K of core. A description of the command set requires more space than available here.

Coupled with TDL's other software, your system attains the highest level system integration available for a micro-processor. $25

THE RELOCATING MACRO ASSEMBLER

Here is the most sophisticated programming tool yet developed for a microprocessor. It is without equal in terms of number of functions, scope of capabilities and usefulness.

· It generates a fully relocatable object code.
· It has complete macro generation and infinite nesting of macros capability.

TDL's ingenious Z80 opcode set has as a subset the same opcodes as the 8080. Where other Z80 functions resemble 8080 functions, the TDL mnemonics are logically derived for ease of learning. Where our Z80 opcodes have no 8080 parallel, we generally use Zilog opcodes. Your current 8080 source can be reassembled with only nominal text editing. $50

ZAPPLE BASIC

The most complete and innovative 8K Basic interpreter written. Highly compatible with other Basics. Unique Features include:

TRACE: Allows switching among various line numbers during execution.

SWITCH: Allows switching among various I/O devices either in the program or from the keyboard.

RENUMBER: Allows upward or downward renumbering of the numbered line statements.

LVAR: Lists program variables and their values on your command.

LLVAR: Same as LVAR, but outputs the information to your hardcopy device.

EDIT: A unique feature in an 8K Basic. Allows you to change the internal structure of a line with the 'delete' command.

ZAPPLE BASIC is unique versatile and powerful and up to 20% faster than comparable Basics. $50

TEXT OUTPUT PROCESSOR

TDL's general purpose word processor for the Z80. Used in conjunction with the TEXT EDITOR and MONITOR, it occupies 3K of core and provides powerful word-processing capability.

TDL's TOP features automatic paging, concatenation and justification, as well as many other formatting functions.

Straightforward entry of the Processor's numerous commands directly into the text puts you in total control. The output from the Editor is then run through the Processor to produce output exactly as you have commanded.

Imagination alone limits the possible applications of this word-processor. $50

SUPER BASIC

Our powerful new 12K Basic Interpreter has all the features of Zapple 8K Basic, plus these additions, and many others:
· Allows eleven digit precision including all built-in functions as well as SIN and ARCTAN.
· Multi-line recursive user defined functions.
· Sophisticated editing and program loading.
· Statements may be tabbed horizontally and/or spread over successive lines.
· AUTO inserts line numbers automatically into your program.
· A PRINT USING statement is included which allows the format to be specified as to either a string or a statement number.
· EXCHANGE interchanges the values of two variables at high speed.
· LOADGO allows one program to call in and to execute another program.
· CALL allows you to call resident assembly language subroutines with any number of numeric arguments.

SUPER-BASIC does much more and qualifies as the finest Basic available for microprocessors. $95

THE ZAPPLE TEXT EDITOR

This omnipotent tool gives you the ability to create or to change assembly language programs and to facilitate general word processing.

Text lines and characters may be located, inserted, deleted or changed at will in either forward or backward directions via a movable internal pointer.

Control may be effected by 24 alpha numeric commands which may be strung together in macro-like statements yielding superlative editing capability. $35

pec 77

MORE Z80 SOFTWARE ...

Z-TEL
Z-80 TEXT EDITING LANGUAGE

TDL's Z-TEL is a character oriented Text Editing Language for Z-80 computers. This exceptionally powerful editor provides the following features which are found currently only in large systems software:

- Capability of moving large blocks of text
- Macro capability
- Expression evaluation capability
- Branching and conditional branching commands

Both system and user variables may be used in expressions thereby allowing the overlapping of the two variables. This condition sources much of Z-TEL's editing power. Expressions also can be used as arguments to commands.

The Z-TEL runs under CP/M, FDOS and Zapple. Many other qualities of this outstanding system such as forward and backward search, iterations and the like identify Z-TEL as rivaling the best editors found on systems of any size.

Shipments will start July 15, 1977. 30 day delivery is projected.

$50 on paper tape.
$40 on cassette.

DATA MANAGEMENT BASIC

Data Definition Language (DDL) processor
Data Manipulation Language
Database Initialization Program

This package is being developed and its introduction is imminent.

TDL ANNOUNCES THE FIRST COMPLETE ANSI STANDARD FORTRAN IV

This newest addition to the growing TDL software line is the most advanced high level software tool available for an 8 bit micro. It is a NO COMPROMISE package designed and written to the most exacting standards of excellence and performance. FORTRAN has been offered for micros before, but only in incomplete subset form - never has a true complete ANSI STANDARD FORTRAN IV been offered, and we didn't stop there. This FORTRAN package includes many powerful extensions which give you true big system capability.

FULL ANSI FORTRAN (NOT A SUB SET) WITH MANY EXTENSIONS
Such features as:
Data types - integer*1, integer*2, real, double precision, complex, logical, string
Named Common - equivalence, statement functions, implicit, . . .
Full Type Conversion
Full library of scientific and string funtions.
Linking loader with automatic library search (can link with assembler output)
Full formatted I/O
Sequential and direct access I/O
Cross compiler written in ANSI FORTRAN
Hex constants
Control over placement of data and code areas - code can run from ROM

In addition to the compiler, loader, libraries, DOS linkages, etc., this FORTRAN IV package may be interfaced to TDL's forthcoming HARDWARE MULTIPLY/DIVIDE module (available August 1977) and will then run ten to fifty times faster than the fastest 8080 or Z-80 BASIC language packages.
Operationally, this FORTRAN is a disk-oriented system, which runs in 24K with DOS. Both FDOS IV and CP/M versions are available. The standard package includes both the floppy diskette containing the object code and a comprehensive user's manual. Additional documentation and support packages are available - please contact our Director of Sales for more information.

Delivery: Commencing Mid-July 1977
Price! only $495.00

NEW HARDWARE
Z80 VDB

THE VIDEO DISPLAY BOARD - VDB

Technical Design Labs, the design leader in micro-computers is proud to announce its Video Display Board (VDB), the most powerful video terminal board available for the S-100 buss.
Included in its features are the following:

80 characters per line!
25 lines per screen!
64 graphic characters!
Independent memory (not part of the processor's address space)
2 full screens of display memory!
Software controlled character inversion!
Software controlled character blink!
Software controlled display inversion!
Software controlled cursor!
Software addressable cursor!
Software readable cursor!
Software readable display memory!
Upper/lower case with descenders!
Software controlled display inhibition!
Works with modified TV set or monitor!
On-board 8-bit parallel port for keyboard and status lights!
Software drivers can be put in either ROM or RAM

Shipments will start August, 1977

$295.00 Kit
$395.00 Assembled & Tested

Software prices include object code and user's manual only.

Industrial/OEM documentation packages, including source listings, updating service, etc. are available.

Contact Director of Sales, Donna Galletti.

The Design Leader in μ Computers

TECHNICAL DESIGN LABS

RESEARCH PARK BLDG. H 1101 STATE ROAD
PRINCETON, NEW JERSEY 08540 (609) 921-0321

June 15, 1977

PRICE LIST

TDL PRICE LIST
(Effective 1 August 1977)

Module prices include all relevant manuals
Manual prices are for EACH manual, or set of manuals

ITEM	KIT	ASSEMBLED AND TESTED
ZPU Card	$269	$345
Z4K	$169	$245
Z8K	$295	$375
Z12K	$435	$535
Z16K	$574	$699
4K Expansion kit	$140	-
SYSTEM MONITOR BOARD	$295	$395
INTERFACE ONE	$27	$40
VIDEO DISPLAY BOARD	$349	$449
XITAN ALPHA 1	$769	$1037
XITAN ALPHA 1.5	$868	$967 *1138*
XITAN ALPHA 2	$1369	$1749
XITAN ALPHA 3	$1089	$1464
XITAN ALPHA 4	$1649	$2149
100 Pin Edge Connectors	$7	$14
(Assembled and tested = installed with original order)		
KIT MANUALS(w/o Software listings) (each)	-	$20
SOFTWARE MANUALS (each)	-	$15
XITAN SYSTEM MANUALS (all hardware and software manuals)	-	$95
Z80 Technical Manual	-	$7.50

SOFTWARE PRICING:

PACKAGE	PAPER TAPE	CASSETTE	DISK
8K BASIC	$50	$40	-
SUPER-BASIC	$95	$79	-
ZAPPLE MONITOR	$25	-	-
TEXT EDITOR	$35	$30	-
MACRO-ASSEMBLER	$50	$40	-
TEXT OUTPUT PROCESSOR	$50	$40	-
Z-TEL	$50	$40	-
FORTRAN IV	-	-	$349
PACKAGE A (Basic, Zapple Monitor, Text Editor, Macro-Assembler, Output Processor (Cassette w/o Monitor)	$169	$149	$189
PACKAGE A (w/Super-Basic)	$199	$179	$229
PACKAGE B (Output Processor, Text Editor, and the Zapple Monitor)	$85	$60	-
PACKAGE C (The Macro-Assembler, Monitor, and Text Editor)	$85	$60	-

SPECIAL: To substitute the Z-TEL text editor for the Zapple Text Editor
in any package, increase the price by $15. Be SURE to specify the change
on your order.

ORDERING INFORMATION:

Send check or money order along with your order and your order will
be shipped postpaid. Shipment is normally via UPS Blue Label or UPS.. If
other arrangements are required please specify. COD orders must be
accompanied by a $15 handling fee.

Bankamericard and Mastercharge orders are acceptable and are
handled as cash orders. Be sure to include your card number, expiration
date, and your order must be signed.

Prices, delivery schedules, and specifications are subject to
change without notice.